

**IN THE CLAIMS**

1. (currently amended) A layer 2 link handler provided in a network-side device, the network-side device connected with a user-side device by a permanent virtual connection path of layer 1, wherein said user-side device is made to connect to one among multiple specified connection destinations via one of [[a]] permanent virtual connection paths of layer 1 or and a switched virtual connection paths of layer 1, the layer 2 link handler comprising:

a path specification means that specifies one path of a connection request destination from layer 2 link information that is emitted from the user-side device at the time of a layer 2 link connection request; and

a path connection means that causes said permanent virtual connection path of layer 1 connected between said network-side device and the user-side device to connect to one specified path of the connection request destination and form a path between the user-side device and the specified connection destination.

2. (currently amended) The layer 2 link handler as described in claim 1, wherein said path connection means includes a distribution means that, by switching on a layer 2 packet level, distributes and transfers packets that arrive from [[the]] said permanent virtual connection path of layer 1 connected [[with]] between said network-side device and the user-side device to one path of the connection request destination.

3. (original) The layer 2 link handler as described in claim 1, wherein said path connection means includes a setting means that newly sets one path of the connection request

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destination specified by said path specification means and connects a path between the user-side device and the specified connection destination.

**4. (currently amended)** The layer 2 link handler as described in claim 1, wherein said path connection means includes a labeling means that, based on layer 2 link information emitted from the user-side device at the time of a layer 2 link connection request, assigns a label of each layer 2 link of said connection request to a layer 2 packet from the user-side device, said path connection means further ~~including~~ includes a transfer means that transfers, ~~by label multiplex~~ layer 2 links, a layer 2 packet labeled by said labeling means to the path to said specified connection destination.

**5. (currently amended)** The layer 2 link handler as described in claim 1, wherein said path connection means recognizes [[the]] labels of layer 2 packets that arrive from [[the]] said permanent virtual connection path [[with]] of layer 1 connected between said network-side device and the user-side device, and to which said labels are being assigned for each layer 2 link, and transfers the layer 2 packets to the path to the specified connection destination that corresponds to [[a]] given labels, and recognizes [[the]] labels of labeled layer 2 packets that arrive from the path with the specified connection destination and transfers the layer 2 packets to the permanent virtual connection path to the user-side device that corresponds to [[a]] given labels.

**6. (currently amended)** The layer 2 link handler as described in claim 4, wherein said labeling means includes a selecting means that, when a label is newly assigned to a layer 2 link,

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selects an arbitrary available label number and emits a labeled layer 2 packet, and said path connection means handles the link of the labeled layer 2 packet that is assigned the same label number, [[and is]] the link of the labeled layer 2 packet being sent back from the side of the device that received said labeled layer 2 packet, as a link of [[the]] a pair of said layer 2 link newly assigned a label.

**7. (original)** The layer 2 link handler as described in claim 6, wherein said labeling means includes an assigning means that newly selects a label number and assigns said label number including in the label a marking indicating that it is a transmission from the allocated label number management side, and handles the link of the labeled layer 2 packet sent back from a reception side with the same label number, to which is added a marking indicating a transmission from the label number non-management side, as a link of the pair of the layer 2 link newly assigned a label.

**8. (original)** The layer 2 link handler as described in claim 4, wherein said labeling means, when it newly assigns a label to a layer 2 link, determines the label number by doing a negotiation mutually with another device side.

**9. (original)** The layer 2 link handler as described in claim 4, wherein said labeling means, when it newly assigns a label to a layer 2 link, assigns a label with a label number directed by operation of a network management operation device.

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**10. (currently amended)** The layer 2 link handler as described in claim 5, wherein said path connection means recognizes the labels of layer 2 packets that arrive from [[the]] said permanent virtual connection path [[with]] of layer 1 connected between said network-side device and the user-side device, and to which are assigned said labels being assigned according to the quality-of-service class of each layer 2 link, and transfers layer 2 packets to the path to the specified connection destination that corresponds to the given label.

**11. (currently amended)** The layer 2 link handler as described in claim 5, wherein said path connection means recognizes the labels of layer 2 packets that arrive from [[the]] said permanent virtual connection path [[with]] of layer 1 connected between said network-side device and the user-side device, and to which are assigned said labels being assigned according to the connection destination of each layer 2 link, and transfers layer 2 packets to a path to the specified connection destination that corresponds to the given label.

**12. (currently amended)** The layer 2 link handler as described in claim 5, wherein said path connection means recognizes [[the]] labels of layer 2 packets assigned according to the distribution type of service in the IP packet within layer 2 link packets that arrive from [[the]] said permanent virtual connection path [[with]] of layer 1 connected between said network-side device and the user-side device, and transfers layer 2 packets to the path to a specified connection destination that corresponds to the given label.

**13. (currently amended)** The layer 2 link handler as described in claim 1, wherein said path connection means includes an extracting means that extracts [[the]] a request connection  
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destination name from layer 2 link information emitted from the user-side device at the time of a layer 2 link connection request and a conversion table that converts from said connection destination name to a connection address, and a path determining means that uses a connection address obtained from said conversion table to cause a path to be connected between the user-side device and the specified connection destination.

**14. (currently amended)** The layer 2 link handler as described in claim 1, wherein processing that specifies one path of the connection request destination from layer 2 link information in said path specification means is done under software control by a processor, and the path connection means that connects [[the]] said permanent virtual connection path of layer 1 connected between said network-side device and the user-side device to a path specified by said processor said connection destination after one connection destination said path is specified, is constituted by a switching means by means of hardware.

**15. (previously presented)** A layer 2 link path connection method comprising the steps of:

providing a layer 2 link handler connected by a permanent virtual connection path with a user-side device;

extracting by said link handler a request connection destination name from layer 2 link information emitted from the user-side device at the time of a layer 2 link connection request;

extracting a connection address from said connection destination name by means of a conversion table;

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notifying the user-side device connected by a permanent virtual connection path of said connection address;  
emitting by the user-side device the connection destination address it has been notified of to the network-side device; and  
based on said connection destination address, connecting by the network-side device, the user-side device and the connection destination by switching one of permanent virtual connection paths and switched virtual connection paths.

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